



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

VWP Individual Permit Issuance Number 10-2020

Effective Date: November 27, 2012

1st Minor Modification: November 22, 2013

1st Major Modification: May 13, 2014

Expiration Date: November 26, 2027

VIRGINIA WATER PROTECTION PERMIT ISSUED PURSUANT TO THE STATE WATER CONTROL LAW AND SECTION 401 OF THE CLEAN WATER ACT

Based upon an examination of the information submitted by the owner, and in compliance with § 401 of the Clean Water Act as amended (33 USC § 1341) and the State Water Control Law and regulations adopted pursuant thereto, the State Water Control Board (board) has determined that there is a reasonable assurance that the activity authorized by this permit, if conducted in accordance with the conditions set forth herein, will protect instream beneficial uses and will not violate applicable water quality standards. The board finds that the effect of the impact, together with other existing or proposed impacts to surface waters, will not cause or contribute to a significant impairment to state waters or fish and wildlife resources.

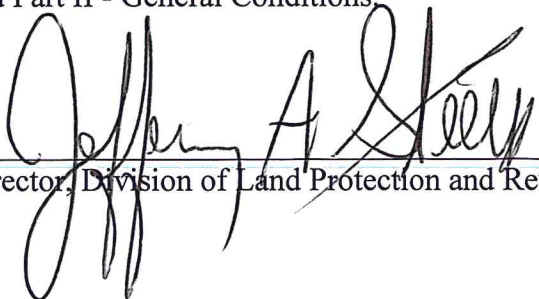
Permittee: Loudoun County Sanitation Authority (d.b.a. Loudoun Water)

Address: POB 4000, 44865 Loudoun Water Way, Ashburn, VA 20146

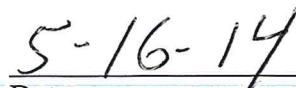
Activity Location: Loudoun County, VA

Activity Description: Construction and operation of a public water supply project on the Potomac River, including a 40 million gallon per day (mgd) peak day intake, deflector, and cofferdam; pump stations; a 20 mgd capacity water treatment plant; water transmission lines; access roads; staging areas; bridges; culverts; underground borings; storage of water in quarries; and withdrawal of surface water from the Potomac River and from quarry storage.

The permitted activity shall be in accordance with this Permit Cover Page, Part I - Special Conditions, and Part II - General Conditions.



Director, Division of Land Protection and Revitalization



Date

Part I - Special Conditions

A. Authorized Activities

1. This permit authorizes the withdrawal of surface water from the Potomac River and quarry storage facilities for the purpose of public water supply.
2. This permit authorizes the following impacts to surface waters:
 - a. The permanent fill of the following resources for installation of water transmission lines and construction or alteration of access roads, pump stations, water treatment plant, and intake structure: 0.12 acre of palustrine forest (PFO) wetlands, 0.14 acre of palustrine emergent (PEM) wetlands, 803 linear feet of stream bed in unnamed tributaries of Tuscarora, Goose, and Sycolin Creeks; and 165 linear feet (11,050 square feet) of stream bed in the Potomac River.
 - b. The dredging of approximately 3,000 cubic yards of material for construction of the intake structure in the Potomac River.
 - c. The permanent conversion of 0.04 acre of PFO wetlands to palustrine scrub-shrub wetlands or PEM wetlands associated with installation of water transmission lines. The pipeline corridor shall be maintained after pipeline installation as scrub-shrub or emergent wetlands in those areas where conversion occurs.
 - d. The temporary fill or disturbance of the following resources for installation of water transmission lines and construction or alteration of access roads, pump stations, water treatment plant, and cofferdam(s): 0.08 acre of PFO wetlands, 0.30 acre of PEM wetlands, 783 linear feet of stream bed on unnamed tributaries of Tuscarora, Goose, and Sycolin Creeks; and 350 linear feet (55,600 square feet) of stream bed in the Potomac River.
 - e. The temporary use of mechanical equipment in surface waters when conducted in accordance with the permit Special and General Conditions.
3. The withdrawal of surface water from the Potomac River and Quarry A shall be in accordance with all permit conditions contained herein, and specifically detailed in Part I.I.
4. Authorized impacts shall be as depicted on Figures A1 through A3 dated December 2010 with a most recent revision date of January 2014 and associated plan views with a revision date of January 2014, submitted in the modification request dated and received January 15, 2014. Authorized activities shall be conducted as described by information submitted during the pre-application panel review process from 2009 through 2010; in the Joint Permit Application dated December 28, 2010, and supplemental materials, revisions and clarifications received through June 29, 2012; the Minor Modification request received October 16, 2013, and the major modification requested received January 15, 2014, and additional information received January 28, 2014.

B. Permit Term

This permit is valid for 15 years from the effective date of the issuance. A new permit may be necessary for the continuance of the authorized activities, including water withdrawals, or any permit requirement that has not been completed. At least 180 calendar days prior to the expiration date of this permit, the permittee shall notify DEQ in writing of his or her intent to continue one or more of the authorized activities. A new permit application shall be required by DEQ at that time. DEQ, acting on behalf of the State Water Control Board (board), may issue a new permit; issue a new permit with new or modified conditions; or deny the application.

DEQ, on behalf of the board may reopen and modify this permit if after issuance the project operations are determined to have adverse impacts on surface waters or beneficial uses. If applicable, any necessary major modifications to the permit shall include similar public participation procedures as those implemented during the issuance of the permit. Modifications shall not include extension of the permit term beyond 15 years.

C. Standard Project Conditions

1. The activities authorized by this permit shall be executed in such a manner that any impacts to stream beneficial uses are minimized. As defined in §62.1-10(b) of the Code, “beneficial use” means both instream and offstream uses. Instream beneficial uses include, but are not limited to, the protection of fish and wildlife habitat, maintenance of waste assimilation, recreation, navigation, and cultural and aesthetic values. Offstream beneficial uses include, but are not limited to, domestic (including public water supply), agricultural, electric power generation, commercial, and industrial uses. Public water supply uses for human consumption shall be considered the highest priority.
2. Construction activities shall be conducted in accordance with the Time-of-Year restrictions below.
 - a. March 1 through June 15 of any year for warm-water fish species in the Potomac River. This restriction applies to cofferdam installation and activities occurring outside of a cofferdam. Construction activities within the confines of the cofferdam are not included within this Time-of-Year restriction.
 - b. April 15 through June 15 and August 15 through September 30 of any year for mussel species in the Potomac River. This restriction applies to cofferdam installation and activities occurring outside of a cofferdam. Construction activities within the confines of the cofferdam are not included within this Time-of-Year restriction. This restriction may be waived upon written approval from DEQ after consultation with DGIF and the Maryland Department of Natural Resources and any necessary mitigation actions are implemented.
 - c. December 15 through July 15 of any year should an active eagle nest site be located within 660 feet of either side of the proposed intake site along the Virginia Potomac River shoreline (see also Part I.J.13).

3. No activity shall substantially disrupt the movement of aquatic life indigenous to the water body, including those species that normally migrate through the area, unless the primary purpose of the activity is to impound water.
4. At crossings of streams, pipes and culverts less than 24 inches in diameter shall be countersunk a minimum of three inches, and pipes and culverts greater than 24 inches in diameter shall be countersunk a minimum of six inches to provide for the re-establishment of a natural stream bottom and to maintain a low flow channel. For multiple-celled culverts, only the bottoms of those cells situated below the limits of ordinary high water shall be countersunk. To the greatest extent practicable, other cells, pipes, or culverts shall be elevated to provide a natural distribution of flood flows. The requirement to countersink shall not apply to extensions or maintenance of existing culverts that are not countersunk, to floodplain culverts being placed above ordinary high water, to culverts being placed on bedrock, or to culverts required to be placed on slopes 5% or greater.
5. Machinery or heavy equipment in temporarily impacted wetlands shall be placed on mats or geotextile fabric, or other suitable means shall be implemented, to minimize soil disturbance to the maximum extent practical. Mats, fabrics, or other measures shall be removed as soon as the work is complete in the temporarily impacted wetland.
6. Temporary in-stream construction features shall be made of non-erodible materials. Non-fill cofferdams shall be utilized unless the permittee receives approval from DEQ for use of another type of cofferdam prior to commencing work in the Potomac River.
7. Temporary disturbances to wetlands, stream channels, and/or stream banks during project construction activities shall be avoided and minimized to the maximum extent practicable.

All materials (including fill, construction debris, excavated materials, and woody materials, that are temporarily placed in wetlands, in stream channels, or on stream banks) shall be placed on mats or geotextile fabric, shall be immediately stabilized to prevent the material or leachate from entering surface waters, and shall be entirely removed within 30 calendar days following completion of that construction activity. After removal, disturbed areas shall be returned to original contours, shall be stabilized, and shall be restored to the original vegetated state within 30 calendar days. The permittee shall take all appropriate measures to promote and maintain the revegetation of temporarily disturbed surface waters through the second year post-disturbance.

All temporarily disturbed wetland areas shall be restored to preconstruction conditions within 30 calendar days of completing work in the areas, which shall include re-establishing pre-construction contours, and planting or seeding with appropriate wetland vegetation according to cover type (emergent, scrub/shrub, or forested), except for invasive species identified on DCR's Invasive Alien Plant Species of Virginia list. The permittee shall take all appropriate measures to promote and maintain the revegetation of temporarily disturbed surface waters through the second year post-disturbance.

All temporarily impacted streams and stream banks shall be restored to their original elevations and contours within 30 calendar days following the construction. Stream banks shall be seeded or

planted with the same vegetative cover type originally present along the banks, including supplemental erosion control grasses if necessary but not including invasive species identified on DCR's Invasive Alien Plant Species of Virginia list. The permittee shall take all appropriate measures to promote and maintain the revegetation of temporarily disturbed surface waters through the second year post-disturbance. Excavated material from stream beds shall be returned to trenched or excavated areas to the maximum extent possible. In the case of encountering bedrock, riprap may be utilized as backfill provided that it does not alter the original stream channel dimensions and pattern.

8. All *non-impacted* wetlands, streams, and designated upland buffers that are within the project or right-of-way limits, and that are within fifty feet of any project activities, shall be clearly flagged or demarcated for the life of the construction activity within that area. All non-impacted open water areas within the project or right-of-way limits, and that are within fifty feet of any project activities, shall be clearly flagged or demarcated, as practicable, for the life of the construction activity within that area. The permittee shall notify all contractors and subcontractors that *no activities are to occur in these marked areas*.
9. No activity shall cause more than minimal adverse effect on navigation, and no activity shall block more than half of the width of the stream at any given time.
10. The activity shall not impede the passage of normal or expected high flows, and any associated structure shall withstand expected high flows.
11. Flows downstream of the project area shall be maintained to protect all uses.
12. All in-stream activities shall be conducted during low-flow conditions whenever practicable.
13. Measures shall be employed at all times to prevent and contain spills of fuels, lubricants, or other pollutants into surface waters.
14. All excavation, dredging, or filling in surface waters shall be accomplished in a manner that minimizes bottom disturbance and turbidity.
15. Virginia Water Quality Standards shall not be violated in any surface waters as a result of the project activities.
16. All construction, construction access, and demolition activities associated with this project shall be accomplished in a manner that minimizes construction materials or waste materials from entering surface waters, unless authorized by this permit. Wet, excess, or waste concrete shall be prohibited from entering surface waters. An exception to this condition is the pouring of concrete within the confined area of a dewatered cofferdam, where the wet, unset concrete shall not come in contact with flowing water.
17. All fill material placed in surface waters shall be clean and free of contaminants in toxic concentrations or amounts in accordance with all applicable laws and regulations.

18. Stormwater runoff shall be prohibited from directly discharging into any surface waters. Best management practices (BMP) designed, installed, and maintained, as described in the Virginia Erosion and Sediment Control Handbook (Third Edition, 1992, or the most recent version in effect at the time of construction) and the Virginia Stormwater Management Handbook (First Edition, 1999, or the most recent version in effect at the time of construction), shall be deemed suitable treatment prior to discharge into surface waters. Installation of alternative practices not described in these references shall be submitted to DEQ for approval prior to beginning construction.
19. Erosion and sedimentation controls shall be designed in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992, or the most recent version in effect at the time of construction. These controls shall be placed prior to clearing and grading activities and shall be maintained in good working order, to minimize impacts to surface waters. These controls shall remain in place only until clearing and grading activities cease and these areas have been stabilized.

D. Stream Modifications, Including Intake/Outfall Structures

1. The permanent intake structure in the Potomac River shall be designed with screens having a maximum mesh opening width of one millimeter and a maximum through-screen intake velocity of 0.25 feet per second.
2. The intake structure shall be designed to avoid a boating or other recreational-use hazard. The permittee shall employ all appropriate signage and channel markings as necessary.
3. Any exposed slopes or streambanks shall be stabilized immediately upon completion of work in each impact area. Methods and materials for stabilization shall be in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992, or the most recent version in effect at the time of construction.
4. Redistribution of existing stream substrate for erosion control purposes is prohibited.
5. Material removed from the stream bottom shall not be deposited into surface waters unless otherwise authorized as fill material in this permit.
6. Riprap apron for all outfalls shall be designed in accordance with Virginia Erosion and Sediment Control Handbook, Third Edition, 1992, or the most recent version in effect at the time of construction.
7. For streambank protection activities, structures and backfill shall be placed as close to the streambank as practical, while still avoiding and minimizing impacts to vegetated wetlands to the maximum extent practical. No material shall be placed in excess of the minimum necessary for erosion protection.
8. Asphalt and materials containing asphalt or other toxic substances shall not be used in the construction of submerged sills, breakwaters, dams, or weirs.

9. If stream channelization or relocation is required, all work in surface waters shall be done in the dry, unless authorized by this permit, and all flows shall be diverted around the channelization or relocation area until the new channel is stabilized. The diversion shall be accomplished by leaving a plug at the inlet and outlet ends of the new channel during excavation. Once the new channel has been stabilized, flow shall be routed into the new channel by first removing the downstream plug and then the upstream plug. The new stream channel shall be constructed following the typical sections submitted with the application and should incorporate natural stream channel design principles to the greatest extent practicable. A low flow channel shall be constructed within the channelized or relocated area. The centerline of the channel shall meander, to the extent possible, to mimic natural stream morphology. The rerouted stream flow shall be fully established before construction activities in the old streambed can begin.

E. *Utilities*

1. All utility line work in surface waters shall be performed in a manner that minimizes disturbance in each area. Temporarily disturbed surface waters shall be restored in accordance with Part I.C, unless otherwise authorized by this permit.
2. Material resulting from trench excavation may be temporarily sidecast into wetlands not to exceed a total of 90 calendar days, provided the material is not placed in a manner such that it is dispersed by currents or other forces.
3. The trench for a utility line cannot be constructed in a manner that drains wetlands (e.g., backfilling with extensive gravel layers creating a French drain effect).
4. Adherence to any existing easement or right-of-way restrictions shall be the sole responsibility of the permittee. This permit shall not override such restrictions, or convey property rights.

F. *Road Crossings*

1. Access roads authorized by this permit shall be constructed to minimize the adverse effects on surface waters to the maximum extent practicable and to follow as near as possible pre-construction contours and elevations. Bridges or culverts, when located above the pre-construction contours and elevations in surface waters, shall be installed.
2. Installation of pipes and road crossings shall occur in the dry via the implementation of cofferdams, sheet piling, stream diversions or other similar structures.
3. All surface waters temporarily affected by a road crossing shall be restored to their original elevations immediately following the removal of that particular temporary crossing. Temporary access roads shall be removed entirely following activity completion.
4. If stream channelization or relocation is required, all work in surface waters shall be done in the dry, unless authorized by this permit, and all flows shall be diverted around the channelization or relocation area until the new channel is stabilized. This work shall be accomplished by leaving a plug at the inlet and outlet ends of the new channel during excavation. Once the new channel has

been stabilized, flow shall be routed into the new channel by first removing the downstream plug and then the upstream plug. The stream channelization or relocation shall be constructed following the typical sections submitted with the application and should incorporate natural stream channel design principles to the greatest extent practicable. A low flow channel shall be constructed within the channelized or relocated area. The centerline of the channel shall meander, to the extent possible, to mimic natural stream morphology. The rerouted stream flow shall be fully established before construction activities in the old streambed can begin.

5. Stream bottom elevations at road crossings shall be measured at the inlet and outlet of the proposed structure and recorded prior to construction and within one week after the completion of construction to ensure that the design elevations were met. This information shall be submitted to DEQ within 15 days of completing the measurements, along with the designed elevations and an explanation as to why these differ, if applicable. A brief electronic mail message or letter shall be acceptable.

G. Stormwater Management Structures

1. Stormwater management facilities shall be installed in accordance with best management practices and watershed protection techniques (as per the Dept. of Conservation and Recreation's Stormwater Management Handbook, First Edition, 1999, or the most recent version in effect at the time of construction), such as vegetated buffers, siting considerations to minimize adverse effects to aquatic resources, and bioengineering methods incorporated into the facility design to benefit water quality and minimize adverse effects to aquatic resources, that provide for long-term aquatic resources protection and enhancement, to the maximum extent practicable.
2. The outfall and overflow structure shall be constructed and maintained to prevent downstream sediment deposition, erosion, or scour that may be associated with normal flow and any expected storm flows. Construction shall include the use of an appropriately sized riprap outlet protection apron at the outfall site.
3. A complete stormwater facility management plan shall be submitted to the DEQ for each stormwater management facility authorized by the permit. Maintenance excavation shall follow the approved maintenance plan, and shall not exceed the original contours of the facility as constructed.
4. Compensation for unavoidable impacts shall not be allowed within maintenance areas of stormwater management facilities.
5. Maintenance within stormwater management facilities will not require compensation provided that the maintenance is accomplished in designated maintenance areas as indicated in the approved stormwater management maintenance plan.
6. Draining of a stormwater management facility shall be performed by a method that prevents downstream sediment deposition, erosion, or scour.

H. Approved Mitigation Bank Conditions

1. The permittee shall provide wetland compensation through the purchase 0.29 mitigation bank credits from the Licking Run Mitigation Bank, Loudoun County, Virginia.
2. The permittee shall provide stream bed compensation through the purchase 1,826 Stream Credit Units (SCU) from the Northern Virginia Stream Restoration Bank, Fairfax County, Virginia (1,559 SCU for 678 linear feet of tributary stream bed impacts and 267 SCU for 170 linear feet of Potomac River bed impacts).
3. Documentation showing that the required credits have been debited from the mitigation bank ledgers shall be submitted to and received by DEQ prior to initiating work in permitted impact areas.
4. Compensation for 0.03 acre of palustrine forested wetland impacts and 0.02 acre of palustrine emergent wetland impacts shall be provide through the purchase of 0.08 wetland credits from Licking Run Mitigation Bank. Documentation showing that the required credits have been debited from the mitigation bank ledgers shall be submitted to and received by DEQ within 90 calendar days of the issuance of the 1st Minor Modification.
5. Compensation for 90 linear feet of permanent stream channel impacts shall be provided through the purchase of 193 SCUs from the Northern Virginia Stream Restoration Bank. Documentation showing that the required credits have been debited from the mitigation bank ledgers shall be submitted to and received by DEQ within 90 calendar days of the issuance of the 1st Minor Modification.
6. Compensation for additional permanent wetland impacts associated with the 1st Major Modification shall be provided through the purchase of 0.05 wetland credits from Licking Run Mitigation Bank. Documentation showing that the required credits have been debited from the mitigation bank ledgers shall be submitted to and received by DEQ within 90 calendar days of the issuance of the 1st Major Modification.
7. Compensation for additional permanent stream channel impacts shall be provided through the purchase of 140 SCUs from the Northern Virginia Stream Restoration Bank. Documentation showing that the required credits have been debited from the mitigation bank ledgers shall be submitted to and received by DEQ within 90 calendar days of the issuance of the 1st Major Modification.

I. Surface Water Withdrawal and Instream Flow Conditions

1. Definitions:
 - a. Quarry A refers to the existing quarry located along the eastern bank of Goose Creek just north of the right-of-way for the former Washington and Old Dominion Railroad in Loudoun County, Virginia. Quarry A is a surface impoundment for the off-stream storage of raw water to be used to supply the Loudoun County Water Treatment Plant during times of drought or high turbidity.

- b. Usable storage capacity of Quarry A is 1.02 billion gallons (total storage minus unusable storage).
- c. Previous day's flow means the daily average stream flow at the specified gage or measuring point as measured on the day before the current date.
- d. Previous day's treated water discharge means the total discharge from the Broad Run Water Reclamation Facility to the Broad Run catchment area as measured on the day before the current date.

2. Withdrawals:

- a. Unless otherwise mandated under the provisions of Part I.I.2.g, the maximum *daily* withdrawal authorized from the Potomac River for the purpose of filling Quarry A and operating the Loudoun Water Treatment Plant shall be the lesser of 40 million gallons per day (mgd) or the result of the following calculation, OR when the result of this calculation is a zero or a negative value, the maximum *daily* withdrawal authorized from the Potomac River for the purpose of filling Quarry A and operating the Loudoun Water Treatment Plant shall be the lesser of 40 million gallons per day (mgd) or the value of Q_{DBR} in mgd:

$$Q_{DBR} + [(Q_{PR} - 805 \text{ cfs}) / 1.547] = \text{mgd}$$

Where:

Q_{DBR} = *previous day's treated water discharge (mgd) from the Broad Run Reclamation Facility*

Q_{PR} = *previous day's flow (cfs) at United States Geologic Survey Potomac River at Point of Rocks Gaging Station (No. 01638500) minus Section of Cooperative Water Supply Operations (CO-OP) water supply storage releases in cfs*

805 cfs = minimum flow-by requirement

1.547 = conversion factor to mgd

- b. Limits on the authorized withdrawal as determined by the rules outlined in Part I.I.2.a are further detailed in Table 1 below.

Table 1: Available water.		
Q _{pr} (cfs)	Pre-Quarry ³ (mgd)	Post-Quarry ³ (mgd)
<805	Q_{DBR}	Q_{DBR}
805 to 1400	Q_{DBR}	$Q_{DBR} + [(Q_{PR} - 805)/1.547]^{1,2}$
>1400	$Q_{DBR} + [(Q_{PR} - 1400)/1.547]^{1,2}$	40
¹ Withdrawals can never exceed the maximum daily limit, regardless of the values from the available water equations. Allowable withdrawal will never be lower than Q_{DBR} regardless of equation. ² When the result of this calculation is a zero or a negative value, the maximum daily withdrawal authorized from the Potomac River for the purpose of filling Quarry A and operating the Loudoun Water Treatment Plant shall be the lesser of 40 million gallons per day (mgd) or the value of Q_{DBR} in mgd. ³ No withdrawal is permitted when year to date total withdrawal reaches the maximum calendar year volume limit.		

- c. The maximum *annual* withdrawal from the Potomac River while initially filling Quarry A shall not exceed 9.4 billion gallons.
- d. The maximum *annual* withdrawal from the Potomac River prior to and after Quarry A is operational shall not exceed 8.4 billion gallons.
- e. Once Quarry A is operational, it shall be filled to a target of 100 percent of its useable storage capacity by June 1 of each calendar year.
- f. Whenever the permittee desires to withdraw water and the provisional streamflow at the Point of Rocks Gaging Station (No. 01638500) is at or below 1,400 cubic feet per second, the permittee shall coordinate with CO-OP in accordance with the DEQ-approved protocol required by Part I.J.10 to determine when water supply storage releases are being made from any CO-OP facilities upstream of the permittee's intake.
- g. The permittee shall comply with the following conditions during drought events:
 - i. When a drought emergency is declared by the Governor or a Water Supply Emergency - Emergency Stage is declared by Loudoun County in accordance with County Ordinance Chapter 1046 the permittee shall implement either the provisions directed by the State declaration, County Ordinance, or the conservation measures outlined in the drought response and contingency plan referenced in Northern Virginia Regional Water Supply Plan, whichever is most restrictive, in addition to complying with restrictions on the permitted withdrawal volume required under this section. The permittee shall be responsible for knowing when drought emergencies are declared. Documentation that mandatory conservation measures were implemented during declared drought emergencies shall be provided to DEQ in the monitoring report required under Part I.J.24.

- ii. Reduce withdrawals as directed by DEQ when a restriction or emergency stage is declared in the Washington Metropolitan Area under the provisions of the most recent Low Flow Allocation Agreement (LFAA).
- iii. The permittee shall coordinate as appropriate to ensure withdrawals are in accordance with the operating rules of the Drought-Related Operations Manual for the Washington Metropolitan Area Water Suppliers, as incorporated into the Potomac River Water Supply Coordination Agreement (WSCA). The permittee shall assign a liaison to the Operations Committee as established in the WSCA. The permittee shall participate in drought-related exercises with the Cooperative Water Supply Operations (CO-OP) and members of the WSCA Operations Committee. Such participation includes providing planning level information as requested by Interstate Commission on the Potomac River Basin (ICPRB).

J. Monitoring, Submittals, and Reporting

Monitoring:

1. At least once prior to commencing work in permitted impact areas, the permittee shall plan and hold a pre-construction meeting with all contractors to review the conditions, requirements, and provisions of this permit. Information provided to the participants shall include but not be limited to a copy of this Virginia Water Protection Permit; a fact sheet on identifying and reporting the relocation of the state-threatened Wood turtle; the construction Time-of-Year restrictions for protection of wildlife resources; the location of surface waters that are not to be impacted; the location of any bald eagle nests; a copy of the approved directional drilling contingency plan; and project contact names and phone numbers. DEQ shall be invited to attend such a meeting, or meetings, and given at least 15 days notice of the meeting date(s).
2. The permittee shall conduct photographic monitoring of *pre-construction conditions* in permitted temporary and permanent impact areas covered by this permit by the following method:
 - a. Enumerated photo stations shall be established at each permitted impact area. Photo stations may be established via water craft or temporary floating structures. Once the stations are established, the directional orientation of each photo station shall remain constant during all monitoring events.
 - b. Photographs shall be sufficient to capture pre-construction site conditions and the boundary between authorized surface water impact areas and unauthorized surface water impact areas.
 - c. Each photograph taken shall be labeled with the permit number, the permitted impact area, the photo station number, the photograph orientation, the date and time of the photograph, the name of the person taking the photograph, and a brief description. If necessary, this information shall be provided as a separate attachment to each photograph.
 - d. Pre-construction photos shall be submitted with the ten-day notification (Part I.J.15) to DEQ that land disturbing or construction activities are planned to begin.

3. The permittee shall conduct photographic monitoring *during construction activities* in permitted temporary and permanent impact areas covered by this permit by the following method:
 - a. The same photo stations established during pre-construction monitoring shall be used, unless additional stations are necessary to adequately document the activities.
 - b. Monitoring shall be sufficient to document that the permitted activities are in compliance with permit conditions and to document any events that are not in compliance with the construction-related permit conditions.
 - c. For work being conducted in phases, monitoring may begin upon initiating work in those specific permitted impact areas. Photographic monitoring in each permitted impact area shall continue until construction in the impact area is completed.
 - d. Each photograph taken shall be labeled with the permit number, the permitted impact area, the photo station number, the photograph orientation, the date and time of the photograph, the name of the person taking the photograph, and a brief description of the photograph subject. If necessary, this information shall be provided as a separate attachment to each photograph.
 - e. Photos taken during construction activities shall be submitted as part of the construction monitoring reports detailed in Part I.J.22.
4. The permittee shall conduct photographic monitoring *post-construction conditions* in permitted temporary and permanent impact areas covered by this permit by the following method:
 - a. The same photo stations established during pre-construction and construction monitoring shall be used, unless additional stations are necessary to adequately document the conditions.
 - b. Monitoring shall occur once temporary and permanent activities are complete.
 - c. Monitoring shall be sufficient to document that the construction occurred as planned; that temporarily disturbed areas have been restored in compliance with the permit conditions; and that unauthorized impacts have not occurred in surface waters as a result of the permitted activities.
 - d. Photos of post-construction conditions shall be submitted as part of the construction monitoring reports detailed in Part I.J.22.
5. The permittee shall install measuring devices that provide for the continuous monitoring of the water level in Quarry A; the production of treated water from the Loudoun Water Treatment Plant; and the treated discharge from the Broad Run Water Reclamation Facility. Data collected from such devices shall be made available to DEQ and the members of the Section for Cooperative Water Supply Operations on the Potomac (CO-OP) electronically over the internet in real-time.

6. The permittee shall monitor stream flow at the United States Geologic Survey Potomac River at Point of Rocks Gaging Station (No. 01638500) using the USGS Real-Time Water Data for Maryland web site <http://waterdata.usgs.gov/md/nwis/rt>.

Submittals:

7. All reports required by this permit and other information requested by DEQ shall be signed by the permittee, or a person acting on the permittee's behalf as a duly authorized representative with the authority to bind the permittee.

A person is a duly authorized representative only if 1) the authorization is made in writing by the permittee; AND 2) the authorization specifies either the named individual or the named position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, superintendent, or position of equivalent responsibility.

If a change of the duly authorized representative occurs, the permittee shall immediately notify DEQ in writing, providing the new named individual or named position and contact information for the new duly authorized representative.

8. All required submittals shall be sent to the DEQ office stated below, to the attention of the VWP permit manager, and shall contain the following signed certification statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

9. Final plans for the project activities authorized by this permit shall be submitted 45 calendar days prior to initiating any activity affecting permitted impact areas. Activities shall not be initiated in permitted impact areas until DEQ has both reviewed and commented on the plans, or until 45 calendar days have passed and DEQ has not provided comments regarding the plan. In the event DEQ submits comments on the final plans, construction shall not proceed until comments are resolved to DEQ's satisfaction.

Permitted activities shall be performed in accordance with the final project plans submitted to DEQ. Final project plans shall include the location and orientation of all photo monitoring stations. Any changes to the final project plans shall be submitted to DEQ immediately upon determination that the changes are necessary. DEQ approval shall be required prior to implementing the changes.

10. Prior to withdrawing surface water from the Potomac River, the permittee shall develop and submit for DEQ approval a protocol for obtaining from the CO-OP all information pertinent the

water supply storage releases, as detailed in Part I.I.2. DEQ shall have 30 days to review and provide comments prior to implementation of the protocol.

11. The permittee shall provide a written narrative to DEQ on or about June 30, 2017 describing the current status of the Quarry A mining activities, the anticipated date of mining completion, the anticipated date for Quarry A to be operational for raw water system storage and the anticipated storage volumes.
12. Prior to beginning to fill Quarry A, the permittee shall:
 - a. Conduct an initial volumetric survey of the quarry to support calculation of usable storage. The permittee shall submit to DEQ the results of such investigations within 60 days of completion.
 - b. Conduct geotechnical investigations that address at a minimum the quarry's stability, any groundwater seepage into the quarry, any direct hydraulic connection with Goose Creek, the total volume of storage, and any impacts to the quarry due to the 2011 seismic events in Virginia. The permittee shall submit to DEQ the results of such investigations within 60 days of completion.
 - c. Submit to DEQ a contingency plan for determining stream flow at the United States Geologic Survey Potomac River at Point of Rocks Gaging Station (No. 01638500) in the event that the USGS Real-Time Water Data web site is unavailable or the gage is damaged or destroyed.
13. Prior to commencing work in the Potomac River or along its shorelines, the permittee shall:
 - a. Develop and receive approval from DEQ, the Virginia Department of Game and Inland Fisheries, and the Maryland Department of Natural Resources on a mussel collection and translocation plan. DEQ recommends coordination with the Virginia Department of Game and Inland Fisheries and the Maryland Department of Natural Resources to develop such a plan. No work in the Potomac River shall commence until: all required mussel collection permits have been obtained; any required mussel relocation surveys have been completed, and copies of such surveys submitted to DEQ, DGIF, and MDNR (including any data, measurements, photographs, and recommendations made); and any required mussel relocation has occurred.
 - b. Survey the intake location and submit to DEQ documentation that supports the presence or absence of bald eagle nests within 660 feet of either side of the proposed intake site, along both the Virginia and Maryland shorelines. DEQ recommends coordination with the Virginia Department of Game and Inland Fisheries to develop such documentation. If nests are found to be present, Part I.C.2.c shall apply to all work in the Potomac River or on its shoreline.
14. Prior to conducting directional boring activities under any stream or wetland, the permittee shall conduct a geotechnical analysis to ensure that the site is suited for such a methodology. Any sites deemed suitable shall be addressed in a directional-boring contingency plan. The plan shall include the procedures to be followed by the permittee and all contractors should a "frac-out" (surfacing of drilling muds due to subsurface cracks in the soil above the bore) occur during the

boring process. DEQ recommends coordination with the Virginia Department of Game and Inland Fisheries and Virginia Department of Conservation and Recreation to develop such a plan.

15. The permittee shall submit written notification to DEQ, the Maryland Department of the Environment, and the Maryland Department of Natural Resources at least ten calendar days prior to the initiation of construction activities in permitted areas. The notification shall include a projected schedule for initiating and completing work at each permitted impact area and the photographic monitoring required by Part I.J.2. Notifications may be combined where construction is initiated in multiple permitted areas concurrently.
16. Any fish kills or spills of fuels or oils shall be reported to DEQ Northern Regional Office immediately upon discovery at (703) 583-3800. Additionally, any fish kills shall also be reported to the DEQ Central Office, Virginia Water Protection Permit Program at (804) 698-4290. If DEQ cannot be reached, the spill shall be reported to the Virginia Department of Emergency Management (DEM) at 1-800-468-8892 or the National Response Center (NRC) at 1-800-424-8802. Mitigation for aquatic impacts may be required.
17. DEQ shall be notified in writing within 24 hours or as soon as possible on the next business day when potential environmentally threatening conditions are encountered which require debris removal or involve potentially toxic substances. Measures to remove the obstruction, material, or toxic substance or to change the location of any structure are prohibited until approved by DEQ.
18. The permittee shall notify DEQ of any additional impacts to surface waters, including wetlands, or of changes in the type of impacts already authorized by this permit, and of any change in discharges to surface waters that are associated with the project. Such additional impacts and changes shall be subject to individual permit review and/or modification of this permit.
19. Within 60 days of completing the final project design for the Potomac River intake, the permittee shall submit to DEQ an operations and maintenance plan for activities associated with the withdrawal. The plan shall include but not be limited to the following:
 - a. Public notification procedures for cleaning and maintenance of the intake structure and screens.
 - b. Methods and calculations being utilized to meet the monitoring and reporting requirements of this permit.
 - c. Contingency procedures for meeting permit requirements when conditions arise that do not allow for the required monitoring and reporting.
 - d. A schedule of routine maintenance, if applicable.
 - e. The records retention policy with regard to data collection and instrument calibration and verification records.

20. Within two years prior to the expiration of this permit, the permittee shall conduct a bathymetric survey of Quarry A to support the calculation of the useable storage in the quarry. The survey results shall be submitted to DEQ and the Section for Cooperative Water Supply Operations on the Potomac (CO-OP), or such body that maintains a similar role of CO-OP at that time, no later than 180 days prior to expiration of this permit.
21. The permittee shall provide written notification to the DEQ Central Office within 30 days of one or more of the following events: becoming a signatory to the Potomac River Low Flow Water Allocation Agreement (LFAA); becoming a signatory to the Potomac River Water Supply Coordination Agreement (WSCA); or entering into a similar agreement with similar intent. This permit may be reopened and modified after occurrence of any of these qualifying events.

Reporting:

22. Construction monitoring reports shall be submitted to DEQ monthly throughout the construction period when work is conducted in impact areas. Each report shall be due no later than the 15th of the month that follows the month for which the report is being prepared (for example, a report for January activities is due by February 15th). The reports shall include the following, as applicable:
 - a. A written narrative stating whether or not work, including installation and maintenance of erosion and sediment controls, was performed in each permitted impact area during the monitoring period. If work was performed, the narrative shall include a description of the major work items performed, when those items were initiated, when those items are expected to be completed, and any non-compliant events or problems encountered.
 - b. A written summary of any corrective actions taken and any subsequent notifications to DEQ regarding non-compliant events or problems encountered during construction activities in permitted impact areas.
 - c. A summary of anticipated work to be completed during the next monitoring period in all permitted impact areas.
 - d. A labeled site map showing each permitted impact area where work activities occurred during the monitoring period and the photo stations used to document the activities.
 - e. The photos taken during the monitoring period.
23. The permittee shall prepare an annual water withdrawal and use report and shall submit such report to the DEQ Office of Water Supply Planning at P.O. Box 1105, Richmond, Virginia, 23218 by January 31st of the year following the year in which the withdrawals occurred. Electronic submittal using DEQ's on-line use reporting tool shall be acceptable. *Reporting surface water withdrawals in accordance with this condition satisfies the reporting requirement for Water Withdrawal Reporting Regulation 9VAC25-200-10 et seq.* The annual report shall contain the following information:
 - a. the permittee's name and address;

- b. the VWP permit number (10-2020);
 - c. the source (s) from which water is withdrawn;
 - d. the location (latitude and longitude) of each point of water withdrawal;
 - e. the cumulative volume (million gallons) of water withdrawn each month of the calendar year;
 - f. the largest single day withdrawal volume (million gallons) that occurred in the year and the month in which it occurred;
 - g. the method of measuring each withdrawal;
24. The permittee shall prepare an annual monitoring report to demonstrate compliance with this permit. The report shall be submitted to the DEQ Office of Water Supply Planning at P.O. Box 1105, Richmond, Virginia, 23218 by January 31st of the year following the year in which the withdrawals occurred. The report shall include for each calendar date:
- a. the water level in Quarry A;
 - b. the water withdrawn from the Potomac River;
 - c. the water withdrawn from Quarry A;
 - d. the production of treated water from the Loudoun Water Treatment Plant;
 - e. the treated discharge from the Broad Run Water Reclamation Facility;
 - f. the value of water supply storage releases per Part I.I.2;
 - g. stream flow at United States Geologic Survey Potomac River at Point of Rocks Gaging Station (No. 01638500); and
 - h. any periods when the project operated under drought-response mode.

Part II - General Conditions

A. Duty to Comply

The permittee shall comply with all conditions of the VWP permit. Nothing in the VWP permit regulations shall be construed to relieve the permittee of the duty to comply with all applicable federal and state statutes, regulations and prohibitions. Any VWP permit violation is a violation of the law, and is grounds for enforcement action, VWP permit termination, revocation, modification, or denial of an application for a VWP permit extension or reissuance.

B. Duty to Cease or Confine Activity

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the activity for which a VWP permit has been granted in order to maintain compliance with the conditions of the VWP permit.

C. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any impacts in violation of the permit which may have a reasonable likelihood of adversely affecting human health or the environment.

D. VWP Permit Action

1. A VWP permit may be modified, revoked and reissued, or terminated as set forth in 9 VAC 25-210 et seq.
2. If a permittee files a request for VWP permit modification, revocation, or termination, or files a notification of planned changes, or anticipated noncompliance, the VWP permit terms and conditions shall remain effective until the request is acted upon by the board. This provision shall not be used to extend the expiration date of the effective VWP permit. If the permittee wishes to continue an activity regulated by the VWP permit after the expiration date of the VWP permit, the permittee must apply for and obtain a new VWP permit or comply with the provisions of 9 VAC 25-210-185 (VWP Permit Extension).
3. VWP permits may be modified, revoked and reissued or terminated upon the request of the permittee or other person at the board's discretion, or upon board initiative to reflect the requirements of any changes in the statutes or regulations, or as a result of VWP permit noncompliance as indicated in the Duty to Comply subsection above, or for other reasons listed in 9 VAC 25-210-180 (Rules for Modification, Revocation and Reissuance, and Termination of VWP permits).

E. Inspection and Entry

Upon presentation of credentials, any duly authorized agent of the board may, at reasonable times and under reasonable circumstances:

1. Enter upon any permittee's property, public or private, and have access to, inspect and copy any records that must be kept as part of the VWP permit conditions;
2. Inspect any facilities, operations or practices (including monitoring and control equipment) regulated or required under the VWP permit; and
3. Sample or monitor any substance, parameter or activity for the purpose of ensuring compliance with the conditions of the VWP permit or as otherwise authorized by law.

F. Duty to Provide Information

1. The permittee shall furnish to the board any information which the board may request to determine whether cause exists for modifying, revoking, reissuing or terminating the VWP permit, or to determine compliance with the VWP permit. The permittee shall also furnish to the board, upon request, copies of records required to be kept by the permittee.
2. Plans, specifications, maps, conceptual reports and other relevant information shall be submitted as required by the board prior to commencing construction.

G. Monitoring and Records Requirements

1. Monitoring of parameters, other than pollutants, shall be conducted according to approved analytical methods as specified in the VWP permit. Analysis of pollutants will be conducted according to 40 CFR Part 136 (2000), Guidelines Establishing Test Procedures for the Analysis of Pollutants.
2. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
3. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart or electronic recordings for continuous monitoring instrumentation, copies of all reports required by the VWP permit, and records of all data used to complete the application for the VWP permit, for a period of at least three years from the date of the expiration of a granted VWP permit. This period may be extended by request of the board at any time.
4. Records of monitoring information shall include:
 - a. The date, exact place and time of sampling or measurements;
 - b. The name of the individuals who performed the sampling or measurements;
 - c. The date and time the analyses were performed;
 - d. The name of the individuals who performed the analyses;

- e. The analytical techniques or methods supporting the information such as observations, readings, calculations and bench data used;
- f. The results of such analyses; and
- g. Chain of custody documentation.

H. Transferability

This VWP permit may be transferred to a new permittee only by modification to reflect the transfer, by revoking and reissuing the permit, or by automatic transfer. Automatic transfer to a new permittee shall occur if:

1. The current permittee notifies the board within 30 days of the proposed transfer of the title to the facility or property;
2. The notice to the board includes a written agreement between the existing and proposed permittee containing a specific date of transfer of VWP permit responsibility, coverage and liability to the new permittee, or that the existing permittee will retain such responsibility, coverage, or liability, including liability for compliance with the requirements of any enforcement activities related to the permitted activity; and
3. The board does not within the 30-day time period notify the existing permittee and the new permittee of its intent to modify or revoke and reissue the VWP permit.

I. Property rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize injury to private property or any invasion of personal rights or any infringement of federal, state or local law or regulation.

J. Reopener

Each VWP permit shall have a condition allowing the reopening of the VWP permit for the purpose of modifying the conditions of the VWP permit to meet new regulatory standards duly adopted by the board. Cause for reopening VWP permits includes, but is not limited to when the circumstances on which the previous VWP permit was based have materially and substantially changed, or special studies conducted by the board or the permittee show material and substantial change, since the time the VWP permit was issued and thereby constitute cause for VWP permit modification or revocation and reissuance.

K. Compliance with State and Federal Law

Compliance with this VWP permit constitutes compliance with the VWP permit requirements of the State Water Control Law. Nothing in this VWP permit shall be construed to preclude the institution of any legal action under or relieve the permittee from any responsibilities, liabilities, or other penalties established pursuant to any other state law or regulation or under the authority preserved by § 510 of the Clean Water Act.

L. Severability

The provisions of this VWP permit are severable.

M. Permit Modification

A VWP permit may be modified, but not revoked and reissued except when the permittee agrees or requests, when any of the following developments occur:

1. When additions or alterations have been made to the affected facility or activity which require the application of VWP permit conditions that differ from those of the existing VWP permit or are absent from it;
2. When new information becomes available about the operation or activity covered by the VWP permit which was not available at VWP permit issuance and would have justified the application of different VWP permit conditions at the time of VWP permit issuance;
3. When a change is made in the promulgated standards or regulations on which the VWP permit was based;
4. When it becomes necessary to change final dates in schedules due to circumstances over which the permittee has little or no control such as acts of God, materials shortages, etc. However, in no case may a compliance schedule be modified to extend beyond any applicable statutory deadline of the Act;
5. When changes occur which are subject to "reopener clauses" in the VWP permit; or
6. When the board determines that minimum instream flow levels resulting from the permittee's withdrawal of water are detrimental to the instream beneficial use and the withdrawal of water should be subject to further net limitations or when an area is declared a Surface Water Management Area pursuant to §§ 62.1-242 through 62.1-253 of the Code of Virginia, during the term of the VWP permit.

N. Permit Termination

After notice and opportunity for a formal hearing pursuant to Procedural Rule No. 1 (9 VAC 25-230-100) a VWP permit can be terminated for cause. Causes for termination are as follows:

1. Noncompliance by the permittee with any condition of the VWP permit;
2. The permittee's failure in the application or during the VWP permit issuance process to disclose fully all relevant facts or the permittee's misrepresentation of any relevant facts at any time;
3. The permittee's violation of a special or judicial order;

4. A determination by the board that the permitted activity endangers human health or the environment and can be regulated to acceptable levels by VWP permit modification or termination;
5. A change in any condition that requires either a temporary or permanent reduction or elimination of any activity controlled by the VWP permit; and
6. A determination that the permitted activity has ceased and that the compensatory mitigation for unavoidable adverse impacts has been successfully completed.

O. Civil and Criminal Liability

Nothing in this VWP permit shall be construed to relieve the permittee from civil and criminal penalties for noncompliance.

P. Oil and Hazardous Substance Liability

Nothing in this VWP permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under § 311 of the Clean Water Act or §§ 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law.

Q. Unauthorized Discharge of Pollutants

Except in compliance with this VWP permit, it shall be unlawful for the permittee to:

1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances;
2. Excavate in a wetland;
3. Otherwise alter the physical, chemical, or biological properties of state waters and make them detrimental to the public health, to animal or aquatic life, to the uses of such waters for domestic or industrial consumption, for recreation, or for other uses;
4. On or after October 1, 2001 conduct the following activities in a wetland:
 - a. New activities to cause draining that significantly alters or degrades existing wetland acreage or functions;
 - b. Filling or dumping;
 - c. Permanent flooding or impounding;
 - d. New activities that cause significant alteration or degradation of existing wetland acreage or functions.